



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,191	06/20/2003	Douglas L. Keil	LAMIP175/P1148	8804
22434	7590	10/26/2007		
BEYER WEAVER LLP P.O. BOX 70250 OAKLAND, CA 94612-0250			EXAMINER ARANCIBIA, MAUREEN GRAMAGLIA	
			ART UNIT 1792	PAPER NUMBER
			MAIL DATE 10/26/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

10/600,191

Applicant(s)

KEIL ET AL.

Examiner

Maureen G. Arancibia

Art Unit

1792

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 10 October 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: 2,3,5-10 and 18-26.
Claim(s) withdrawn from consideration: 11-14.

AFFIDAVIT OR OTHER EVIDENCE

8. ☒ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Continuation Sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____.
13. ☐ Other: _____.




PARVIZ HASSANZADEH
SUPERVISORY PATENT EXAMINER

Continuation of 11. does NOT place the application in condition for allowance because: Applicant's arguments filed 10 October 2007 have been fully considered but they are not persuasive.

In response to applicant's argument that Imafuku already teaches a separate embodiment wherein the plasma is confined by "confinement rings" (i.e. the additional electrodes provided in addition to the upper electrode 21 and the susceptor 5 in Figures 2-6 of Imafuku), and that therefore one of ordinary skill in the art, seeking to combine the teachings of Lenz with the teachings of Imafuku would only seek to modify the "confinement rings" already taught by Imafuku, rather than adding confinement rings to the embodiment of Figure 12 of Imafuku wherein the plasma is confined by magnets, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In the instant case, Examiner maintains the rationale set forth in the Final Rejection mailed 25 July 2007 as to why it would have been obvious to one of ordinary skill in the art to modify the embodiment of Figure 12 of Imafuku according to the teachings of Lenz. Specifically, it would have been obvious to one of ordinary skill in the art, with a reasonable expectation of success, to modify the apparatus taught by Imafuku et al. to incorporate the vertically arranged and moveable confinement rings taught by Lenz, in order, as taught by Lenz (Column 7, Line 64 - Column 8, Line 25), to allow local control of the pressure at the substrate surface during plasma processing, and thereby, among other benefits, to improve response time.

In regards to Applicant's argument that Imafuku teaches away from the claimed invention by not teaching the claimed invention, and that to combine the teachings of Lenz with those of Imafuku would be redundant, Examiner must disagree. That Imafuku et al. already teaches that the magnetic rings provide a means for trapping the plasma within a desired space would not deter one of ordinary skill in the art from combining the teachings of Imafuku et al. with those of Lenz, with a reasonable expectation of success in attaining an additive benefit, as taught by Lenz, of allowing local control of the pressure at the substrate surface during plasma processing. Moreover, Applicant has not presented any evidence tending to show non-obviousness of combining the teachings of Imafuku et al. and Lenz, such as evidence of unexpected results in combining the magnetic elements with the confinement rings.

In response to applicant's argument that the cited prior art does not expressly teach that the purpose of the combination of the magnetic field and the confinement rings is to magnetically enhance the physical confinement of the plasma, wherein the magnets direct charged particles into the confinement rings and/or cause them to collide with the confinement rings, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). The apparatus taught by the combination of Imafuku et al. and Lenz is structurally the same as the claimed invention, and Examiner contends that such apparatus would inherently produce interaction between the plasma and the confinement rings as recited in Claim 3, due to the interaction between the magnetic field and the charged particles of the plasma. Moreover, such interaction between the magnetic field and the charged particles of the plasma, even if very strong as argued by Applicant, would still represent an enhancement over the physical confinement offered by confinement rings alone, contrary to Applicant's argument. Moreover, Applicant has not provided any evidence tending to show any unexpected results obtained in combining the use of magnetic elements as taught by Imafuku et al. and confinement rings as taught by Lenz.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Specifically in regards to Applicant's argument against the rejection of Claim 5, that the combination of Imafuku et al. and Lenz does not expressly teach the specific spatial relationship between the magnetic field elements and the confinement rings, this is recognized. For that reason, the rejection is further based on Examiner's argument that the inner and outer diameter of the confinement rings is not believed to cause a difference in performance of the apparatus, since narrower or wider confinement rings would still be just as capable of closing and opening the variable gap. Therefore, the relative dimensions between the confinement rings and the magnetic elements is similarly considered not to patentably distinguish the claimed invention from that taught by the combination of Imafuku et al. and Lenz. In *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

In regards to Applicant's argument that if one of ordinary skill in the art were to, through routine experimentation, modify the combination of Imafuku and Lenz to provide confinement rings with specific diameters in order to optimize the particular magnetic field that is produced and the confinement of the charged particles within the plasma volume, such experimentation would produce the strongest magnetic field and not the canted magnetic fields claimed, this argument is not persuasive. The rejection is based on the obviousness of routine experimentation in changing the diameters of the confinement rings in order to optimize for the particular desired result the particular magnetic field that is produced and the confinement of the charged particles within the plasma volume. Examiner disagrees that the only possible outcome of such routine experimentation would be the strongest possible magnetic field or the strongest possible magnetic confinement. Rather, the outcome of such routine experimentation could be any number of configurations, including the claimed configuration, according to the result and level of confinement desired by the experimenter.

Applicant's remaining arguments rely on the Declaration under 37 C.F.R. 1.132, which will not be entered.